

CATESBEIANA



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BULLETIN INFORMATION

Catesbeiana is published twice a year by the Virginia Herpetological Society. Membership is open to all individuals interested in the study of amphibians and reptiles and includes a subscription to *Catesbeiana*, two newsletters, and admission to all meetings. Annual dues for regular membership are \$15.00 (see application form on last page for other membership categories). Payments received after September 1 of any given year will apply to membership for the following calendar year. See the last page of this issue for a membership application/renewal form.

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The principal function of *Catesbeiana* is to publish observations and original research about Virginia herpetology. Rarely will articles be reprinted in *Catesbeiana* after they have been published elsewhere. All correspondence relative to the suitability of manuscripts or other editorial matters should be directed to Dr. Paul Sattler, Editor, *Catesbeiana*, Department of Biology, Liberty University, 1971 University Blvd., Lynchburg, VA 24502 (email: pwsattle@liberty.edu).

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Manuscripts for consideration of publication in *Catesbeiana* should be doublespaced and submitted to the Editor electronically or typewritten on good quality 8½ by 11 inch paper, with adequate margins. Consult the style of articles in this issue for additional information, including the appropriate format for literature citations. The metric system should be used for reporting all types of measurement data. Computer diskettes or email attachments in Word or WordPerfect format are desired for all papers. Submissions concerning the herpetofauna of selected areas, such as a park, city or county, should be prepared in article rather than field note format. Articles will be refereed by the editor and one or more qualified reviewers. All changes must be approved by the author before publication; therefore, manuscripts must be received by the editor before **March 1** and **September 1** to be considered for publication in the spring and fall issue, respectively, of *Catesbeiana*. Reprints of articles are not available, but authors may reprint their own articles to meet professional needs.

(Editorial policy continued on inside back cover)

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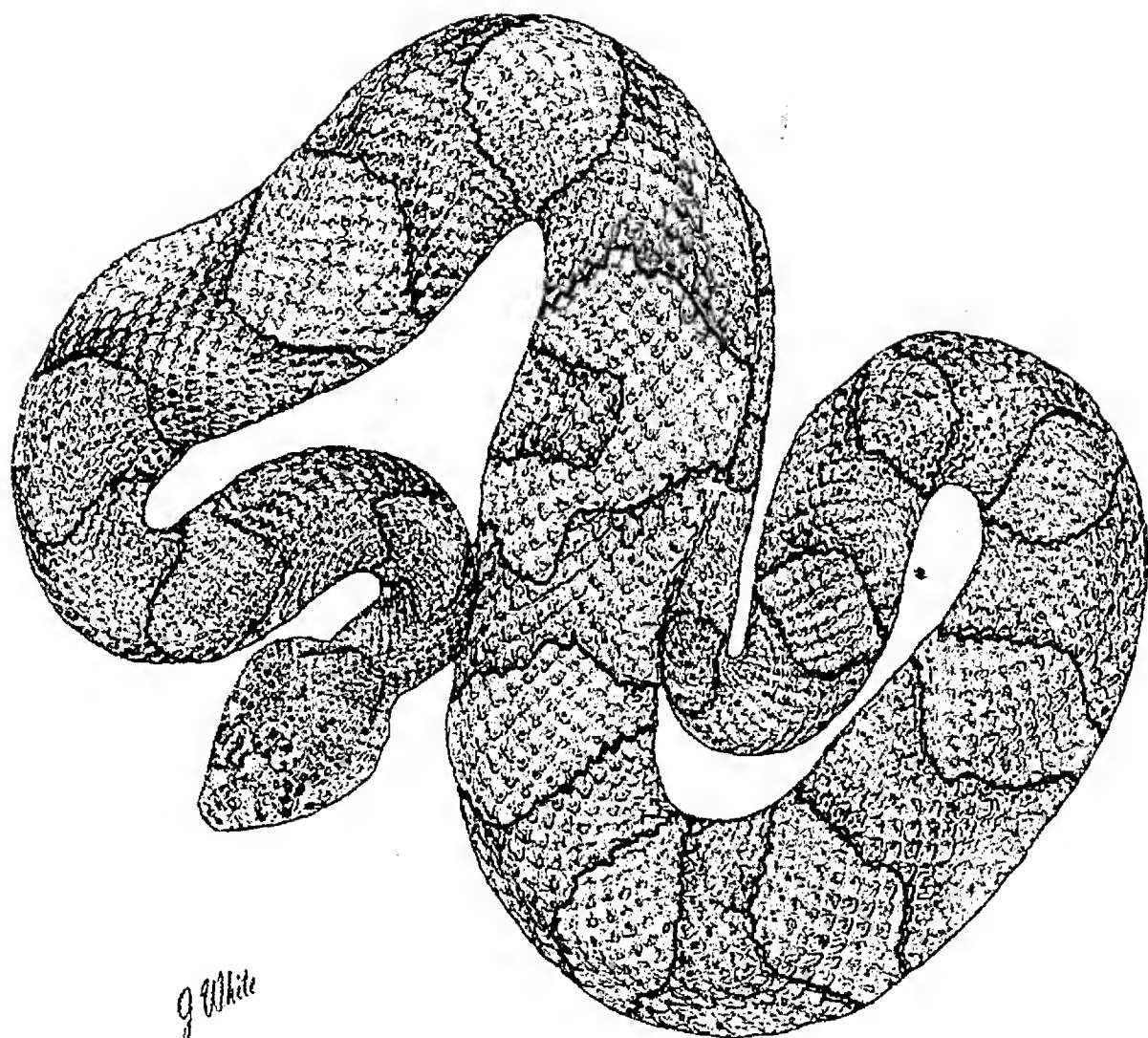
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Next Meeting

October 4-5, 2008

VCU Life Science Building

See Web page (<http://fwie.fw.vt.edu/VHS>) for details



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Herpetofaunal Survey of Chickahominy Wildlife Management Area and New Kent Forestry Center

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The Virginia Herpetological Society (VHS) annually selects sites within the Commonwealth and surveys them for herpetofaunal species. The VHS usually selects sites that are within localities lacking official records of native and naturalized reptiles and amphibians. Through these surveys, the VHS is able to obtain distributional, behavioral, morphological, and physiological data. Relative abundance of species may also be assessed during these surveys.

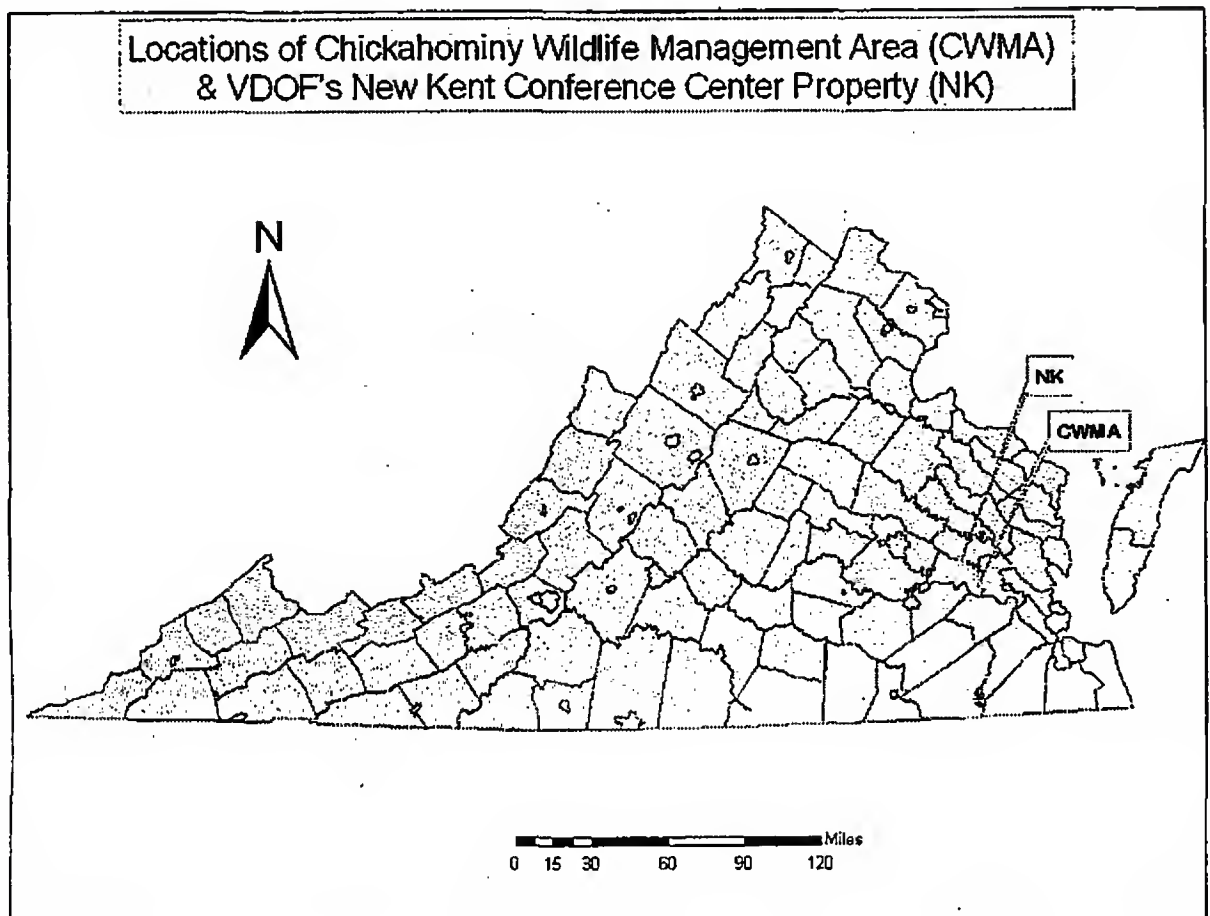
From 6- 9 July, 2007, the VHS held its Annual Spring Survey and Meeting at the Virginia Department of Game and Inland Fisheries' (VDGIF) Chickahominy Wildlife Management Area (CWMA), in Charles City County, and at the New Kent Conference Center, which is in a Virginia Department of Forestry (VDOF) nursery in New Kent County. Both areas contain mixed upland forests, riparian areas along the Chickahominy River, wooded ponds or wetlands, and open areas.

The CWMA is the only VDGIF management area in the coastal plain that consists mainly of forest and is managed primarily for upland wildlife. At 2,111 hectares (5,217 acres), this property provides a unique mix of upland forest habitats, wetlands, and open areas that are bordered by the Chickahominy River to the east and Morris Creek to the south. Elevation ranges from 7 to 15 meters (25 to 50 feet) Figure 1.

The New Kent Conference Center property consists of planted forests (coniferous and deciduous) for VDOF, mixed forests, open areas, wetlands, riparian area along the Chickahominy River at the end of a wooded trail, and ponds within or along the edge of forest. There are also outbuildings, workers' campgrounds, an office building, the lodging and conference room building, as well as a

forester's residence within New Kent Conference Center. The property is more than 161 hectares (400 acres). See Figure 1 for the location of this site in Virginia.

Figure 1. Map of Virginia displaying the survey sites.



Study Sites:

The following is a descriptive list of the sites that were surveyed and the abbreviations assigned to each. These may also be viewed in maps of these areas in Figures 2 and 3.

CWMA, Area #1 (C1): (Coordinates: 37°17.700" 76 °53.200"): Southeastern most portion of the CWMA, with the Chickahominy River bordering the eastern side of this section, and Morris Creek (a tributary to the Chickahominy River) bordering the western/southwestern sides of this section. This area was comprised of a mix of wooded and open areas of uplands and lowlands. Forested areas were mostly mixed with deciduous and coniferous tree

Herpetofaunal Survey

species. Emergent wetland or marsh habitat occurred along the edges of the Chickahominy River and Morris Creek in this section. There were also wooded ravines near the riparian areas. Open fields maintained with seasonal mowing occurred near the southernmost portion of this area. There was also an open area with a gun range facility and parking area near the northern portion of this area. A couple of small areas of wooded wetland or seasonal pools occurred here, as well.

CWMA, Area #2 (C2): (Coordinates: 37°,17.817" 76°,55.717"):
This area included the two small tracts of the CWMA that comprise the western and southwestern most sections of this property. This area is also on the southern or southwestern side of Morris Creek (across Morris Creek from the rest of the CWMA). These areas were wooded areas of mixed forest and included a small wooded pond and lowland areas.

CWMA, Area #3 (C3): (Coordinates: 37°,20.338" 76°,54.423"):
This area occurs on the southern side of the first section of the road that enters the CWMA, and where the first four parking lots occur on the southern side of this road as you enter the CWMA. This area is mostly wooded with mixed upland forest habitat, wooded wetland habitat, a small pond within the woods, few small open areas, and the small parking lots along this section of the road into the CWMA.

CWMA, Area #4 (C4): (Coordinates: 37°,19.041" 76°,53.998"):
This area occurs mainly on the southern and western side of the section of the road beyond Area #3 and includes the area near the Manager's Residence and the fifth small parking lot on the southwest side of the road. This area was mostly wooded with mixed upland forest habitat, wooded wetlands, few small open areas, and the small parking lot along this section of the road into the CWMA.

CWMA, Area #5 (C5): (Coordinates: 37°,18.200" 76°,53.800"):
This area occurs just south of Area #4 and just north of Area #1. This area is mostly wooded, with mixed upland forest habitat, riparian areas and emergent wetland areas along both Morris Creek and the Chickahominy River, and part of a small tributary into Morris Creek.

New Kent Conference Center (NK): (Coordinates: 37 °,25.700" 76 °,59.633"): This property contains a mix of open and wooded areas. There are also many planted woods for forestry practices, coniferous and deciduous. There are two ponds and a wooded trail leading to a riparian area and wetlands.

New Kent Conference Center Trail (NKT): (Coordinates: 37 °,24.983" 77 °,01.150"): The trail is on the southwestern portion of the New Kent Forestry Center property. The trail goes through a wooded area with wetlands and leads to a portion of the Chickahominy River that borders the Forestry Center property.

New Kent Conference Center Woods (NKW): (Coordinates: 37 °,25.595" 77 °,00.767"): The wooded area of the New Kent property is located along the road near the workers' camp between the two ponds. The habitat is mostly upland mixed forest, and across the road are planted pines.

New Kent Conference Center Pond #1 (NKP1): (Coordinates: 37 °,25.783" 76 °,59.883"): This pond is along a road within New Kent Conference Center, between the area of the conference center and office and the area of the workers camp. Parts of this pond are edged with forest and vegetation, but it is open towards the road.

New Kent Conference Center Pond #2 (NKP2): (Coordinates: 37 °,25.783" 77 °,01.167"): This is a wooded wetland pond near the road towards the westernmost portion of the Conference Center property. There is an open field nearby, but the pond is wooded, with emergent woody vegetation.

Small pond along Rt. 614, during road cruising (P614): (Coordinates: 37,22.733" 77,00.333"): This small pond, which is approximately 0.1 hectare (0.25 acres), is next to Route 614, at a point that is approximately 6.3 kilometers (3.9 miles) south of Route 155. This site is in Charles City County, and it is surrounded by wooded areas. The site was discovered during road cruising sampling efforts on the night of 6 July.

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Figure 2. Map of CWMA displaying the general survey areas (C1-C5).

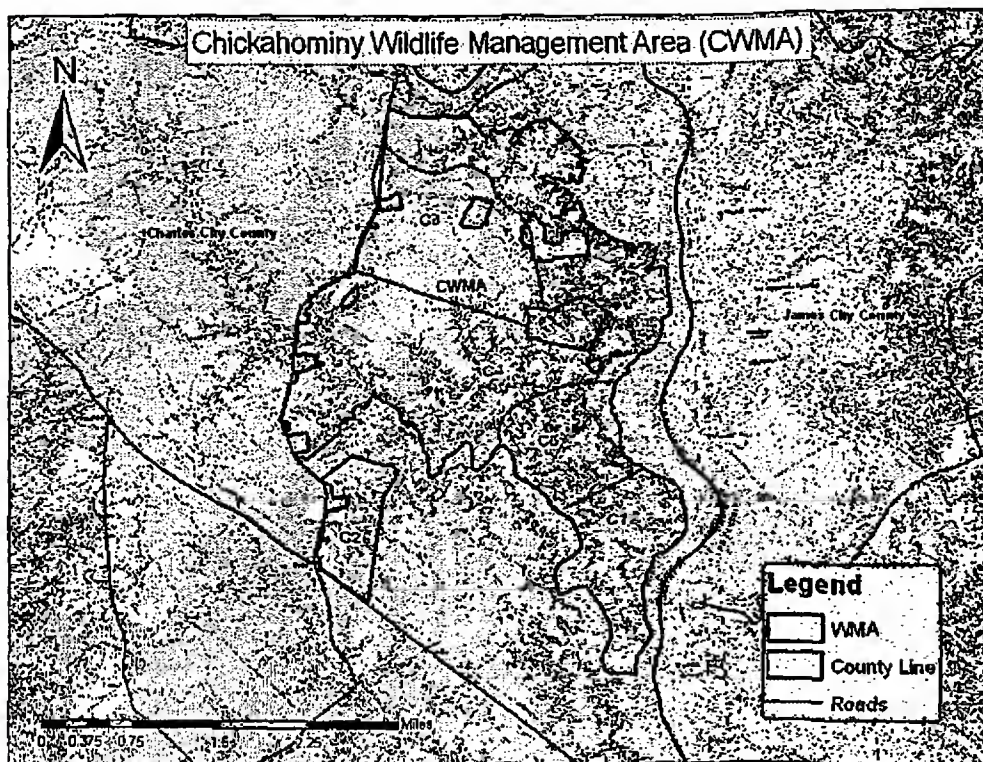
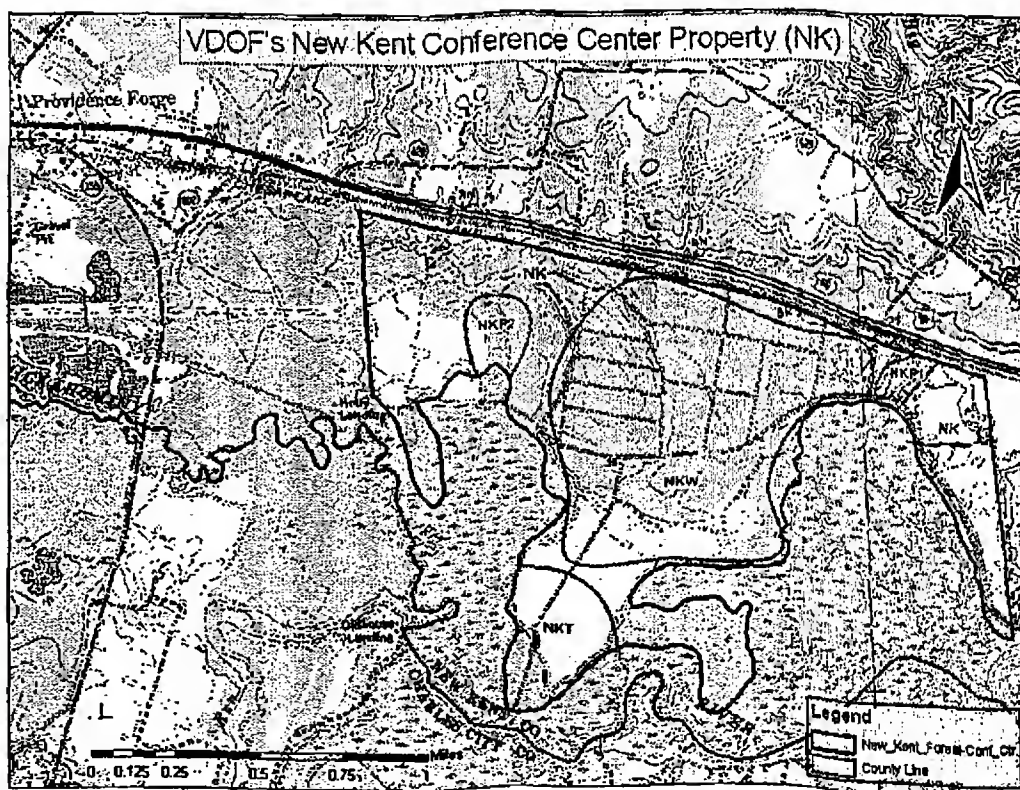


Figure 3. Map of VDOF's New Kent Conference Center property displaying the general survey areas (NK, NKW, NKT, NKP1, and NKP2).



Materials and Methods:

The main survey event occurred all day on 7 July and the first half of the day on 8 July. On Saturday, the participants split into four groups of 5 to 13 people. Those participants who lodged at the New Kent Forestry and Conference Center were able to survey this site for vocalizing anurans on the evenings of 6 and 7 July. As well, some of the same participants sought out herpetofaunal species that could be found along the roads within and near the survey properties on these evenings.

When some members arrived during the day on 6 July, they set baited hoop traps for aquatic turtles and crayfish traps for two-toed amphiumas in the small wooded pond within C2.

These traps were checked on 7 July, and again on 9 July. As well, baited hoop traps were set on 7 July in the two ponds on the New Kent Forestry Center property in order to check them on 8 July.

During the main survey event, male vocalizations, visual observations, and occasional captures by hand or dipnet were used to identify and document anuran species. Terrestrial salamanders were found by overturning logs and other debris mainly in forested areas and some in open areas, as well as by breaking open decaying woody debris. Aquatic salamanders were sought by examining aquatic vegetation along margins, using crayfish traps in wooded swamp/pond habitat, and overturning submerged leaf litter and woody debris by hand, dipnet, or other tools in wetlands, ponds, or streams. Eastern box turtles were sought in wooded and in open areas. Attempts to seek out northern diamond-backed terrapins were made by searching marshy margins of the Chickahominy River and Morris Creek. Lizards were sought by searching potential basking areas on logs or other items in sunny areas or in potential hiding or nesting areas such as logs, under bark leaf litter, other debris, or certain human structures. Captures were done by hand. Snakes were sampled by turning over any available cover and by incidental visual observation and/or occasional capture by hand or by snake hooks or tongs.

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Results:

During the survey, 15 amphibian species (11 anurans and four salamanders) and 18 reptile species (eight turtles, three lizards, and seven snakes) were observed and documented. The following is a descriptive list of species with the locations and habitats in which they were documented (Table 1).

Amphibians:

Anurans:

1. *Acris crepitans* (Northern Cricket Frog) (P614, NKP1, NKP2, C2, C3, NK):

Approximately six males were heard calling at P614, on 6 July, and on this same night, many males were heard calling from both NKP1 and NKP2. A male was heard calling and was captured and released at C2 on 7 July. One was found, captured, and released in open deciduous forest at C3, and many males were heard calling from a forested wetland pond with duckweed in C3. A large chorus of males calling was heard at NK on the night of 7 July.

2. *Anaxyrus* (formerly *Bufo*) *americanus* (American Toad) (C1, C2, C3, NK, NKW):

An adult was observed, captured, and released in an area of open deciduous forest among logs and leaf litter in C3 on 7 July. One was also found still alive and removed from an existing PVC structure in the ground, which unintentionally acted as a pitfall trap, in an open area at NK. In the second parking lot of C3, 25 toadlets were found (one had a mite, and this was photographed), which were too small to determine the species, but may have been *Anaxyrus fowleri* or *A. americanus*. In the third parking lot in C3, more toadlets were observed. Another toad metamorph was found in C2 on 7 July. Several *Anaxyrus* tadpoles were observed in a stagnant stream at C1, but species could not be determined. An adult was also found in mixed deciduous forest at NKW on 7 July.

3. *Anaxyrus fowleri* (Fowler's Toad) (P614, C1, C2, C3, NK):

Approximately six males were heard calling at P614 on the night of 6 July. One male was heard calling at NK on this same night. Four specimens were observed at C1 on 7 July. Of these, one was found in the gravel surrounding the shooting range, one was in a wood pile near a pool of water, one was on a gravel road, and one was on a wooded slope near the river and marsh. One male was found in C2. One other specimen was observed at this same location. One adult was found at C3's first parking lot. One specimen was observed at NK on the night of 7 July.

Of concern at NK, five Fowler's toads were found trapped in the existing PVC structures, like the one previously mentioned in the American toad account. The utilization of this feature in forestry practices is uncertain, but three of these toads were dead, and two that were alive were taken out by survey participants.

4. *Gastrophryne carolinensis* (Eastern Narrow-mouthed Toad) (P614, C2):

Approximately six males were heard calling at P614 on the night of 6 July. One specimen was found in a log at C2 on 7 July.

5. *Hyla chrysoscelis* (Cope's Gray Treefrog) (P614, C2, C4, NKT, NKP2):

Six males were heard calling while members were road cruising the night of 6 July at P614. Also, a male was heard calling at C2 and C4 during the day on 7 July. As well, two males were heard calling at NKT on this same day. On the night of 7 July, males were heard calling at NKP2 and three males were heard calling at this same site during the day of 7 July.

6. *Hyla cinerea* (Green Treefrog) (P614, NKP2):

A chorus of males calling was heard further back off the road from P614 on the night of 6 July. Several males were heard calling from NKP2 on the same night, and one specimen was Herpetofaunal observed on vegetation at this same site. A large chorus of males was heard on the night of 7 July at NKP2.

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7. *Hyla femoralis* (Pine Woods Treefrog) (P614, NK):

Approximately 20 males were heard calling at P614 on the night of 6 July, and on the same night, a specimen was found crossing a road within NK.

8. *Lithobates* (formerly *Rana*) *catesbeianus* (American Bullfrog) (C2, C3, NKP1, NKP2):

One specimen was observed in a pool in C2 on 7 July. An adult male was heard calling in an upland forest with small pools in C3. In this same area, another adult was seen in a forested wetland with duckweed. Adult males were also heard calling on the night of 7 July at NKP1 and NKP2.

9. *Lithobates clamitans melanota* (Green Frog) (NKP1, C1, C2, C3, C5, NKP2, NKW):

One adult male was heard calling from NKP1 on the night of 6 July. One adult male was also heard calling in the ravine of a floodplain along a stream in C1 on 7 July. Also, several metamorphs were observed and/or captured and released in an area of a dried up pool of water in a wooded area of C1. Adult males were heard calling at C2, and several adults were seen and heard in C3. An adult and a juvenile were observed in a stream in C5. Adult males were heard calling on the night of 7 July at NKP1 and NKP2. Two adults were observed on 8 July at NKW, one under a log in a stream, and the other in a pool near a drain under the road.

10. *Lithobates sphenoccephalus* (Southern Leopard Frog) (C1, NK, NKP2):

A juvenile was caught and released in upland habitat at C1. An adult was found under a trash can lid at NK on 7 July, and another was observed at NKP2 that same day.

11. *Pseudacris crucifer* (Northern Spring Peeper) (C1, C3, NK, NKW):

A juvenile was captured and later released in a ravine with emergent vegetation in C1 on 7 July. In this same area, another was observed in upland forest in a tire rut. Another juvenile was observed in upland deciduous forest among logs and leaf litter in C3. Another

specimen was found at NK on 7 July. Metamorphs were seen in a wooded area of NKW on 8 July.

Salamanders:

12. *Ambystoma opacum* (Marbled Salamander) (NKW):

A metamorph was observed at NKW on 7 July.

13. *Eurycea cirrigera* (Southern Two-lined Salamander) (C5):

One specimen was observed under a log near a stream in C5 on 7 July.

14. *Hemidactylium scutatum* (Four-toed Salamander) (NK, C5):

One four-toed salamander was observed by a mud puddle on a road in NK on the night of 6 July, and one was found under a log in C5 on 7 July.

15. *Plethodon chlorobryonis* (Atlantic Coast Slimy Salamander) (C5):

One salamander was observed under a log in C5 on 7 July Reptiles:

Turtles:

16. *Chelydra serpentina serpentina* (Eastern Snapping Turtle) (NKP1):

Three adults were caught in baited hoop traps in NKP1 on 8 July. The largest was a female that measured 280 mm in plastron length and 450 mm in carapace length.

17. *Chrysemys picta picta* (Eastern Painted Turtle) (NKW, NKT, NKP1, NKP2):

A dried shell was observed at NKW. Three adults were seen basking on a log in the Chickahominy River at NKT on 7 July.

Seven adults were captured in baited hoop traps at NKP1 on 8 July. Two males in this group had leeches and one of these males had an old injury to its foreleg, which only had one toe. One more adult was captured in a baited hoop trap at NKP2 on the same day.

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18. *Kinosternon subrubrum subrubrum* (Eastern Mud Turtle) (NKP2):

One adult was dip-netted near the back of NKP2 on the night of 7 July. Four were captured in baited hoop traps in NKP2 on 8 July.

19. *Pseudemys concinna concinna* (Eastern River Cooter) (C2):

A shell, consisting of a plastron and broken carapace, was found in the woods away from the wooded wetland/pond in C2.

20. *Pseudemys rubriventris* (Northern Red-bellied Cooter) (C2): A shell was found in C2.

21. *Sternotherus odoratus* (Stinkpot) (C2, NKP2, NKP1):

Five small to medium specimens were caught in baited hoop traps in a wooded wetland/pond at C2 on 7 July. An adult and a juvenile were seen near NKP2 on 7 July. One adult was captured in a baited hoop trap in NKP1 on 8 July. Three adults were captured in baited hoop traps at NKP2 on this same day, and one of these had an eye with damage that was not described.

22. *Terrapene carolina carolina* (Eastern Box Turtle) (C1, C2, C3, C4, C5, NK, NKT):

A shell was observed in a dried up pool in a wooded area of C1. A juvenile was captured and released in leaf litter under blueberry bushes and was moving away from the trail in C1. Another shell was found in upland forest of this same area. Also in this area, another juvenile was captured and released among upland vegetation on an old road bed. Additionally, an adult male was observed sitting in the shade in an upland area of C1. Two other adult box turtles were observed and moved from the main road into the WMA on the morning of 7 July. One adult was seen in the woods off of a trail in C2. An adult female was captured and released on an open trail in open deciduous forest by the entrance of the parking lot in C4. Two adult males were captured and released in C3 and C4. One of these was under a fallen tree in upland deciduous forest and had swelling on the carapace, while the other was approximately 3 meters (10 feet) from the female on the trail.

One adult was found in the woods of C5 and had undetermined damage to its right eye. A female was observed foraging on worms at NK on 7 July. Also, at NKT on this same day, a dry shell was found.

Of concern at C1, the remnants of approximately three to five box turtles were found that had apparently been crushed by a tractor, or similar equipment along the edge of a large open field in C1. This field appeared to have been mowed weeks or months earlier.

23. *Trachemys scripta scripta* (Yellow-bellied Slider) (NKP1, NKP2):

Five adults were captured in baited hoop traps in NKP1 on 8 July. Also, one other was captured in a baited hoop trap in NKP2 on the same day, and it had a large leech attached. Some of the yellow-bellied sliders had shell rot on their plastrons.

Lizards:

24. *Plestiodon* (formerly *Eumeces*) *fasciatus* (Common Five-lined Skink) (NK, C2, C5):

An adult male was found on a tree on the afternoon of 6 July at NK. Two adult females were observed at the same site and day, with a communal nest of a total of 19 eggs. One adult was seen on a tree at C2 on 7 July. An adult female was found with five eggs under a bank at C5 on 7 July. Two were on a building at NK on 7 July.

25. *Sceloporus undulates* (Eastern Fence Lizard) (C2, NKW):

Three adults were found up a tree at C2 on 7 July. One adult was found on a tree in a wooded area of NKW on 8 July.

26. *Scincella lateralis* (Little Brown Skink) (NK):

One adult was seen moving beside a log at NK on 7 July.

Snakes:

27. *Carphophis amoenus amoenus* (Eastern Wormsnake) (C2, C5, NK):

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Four were found under logs in C2 on 7 July, and the last of these was in shed. Five were found in and under logs in C5 on the same day. Another was found under plastic sheeting at NK.

28. *Coluber constrictor constrictor* (Northern Black Racer) (C1, NK, NKW, NKP1):

One adult was observed in a wooded area near a swamp along Morris Creek in C1 on 7 July. This specimen escaped, as it moved quickly as soon as it was discovered. One skin was found by a building at NK. An adult was observed basking at the edge of the woods at NKW on 7 July. Another adult was found dead on the road at NK near NKP1 on 7 July.

29. *Nerodia sipedon sipedon* (Northern Watersnake) (C2):

Two adults were caught in crayfish traps, which had been set primarily to capture two-toed amphiumas, in the wooded wetland pond at C2 on 9 July.

30. *Opheodrys aestivus* (Rough Greensnake) (NKP2):

One adult was observed along a gravel road past NKP2 on 8 July.

31. *Pantherophis alleghaniensis* (formerly *Elaphe obsoleta obsoleta*) (Eastern (formerly Black) Ratsnake) (C1, NKW):

One eastern ratsnake was captured and released along a forest road in C1 on 7 July. A large adult (approximately 1.8 meters (6 feet) in total length) was captured and released in mixed deciduous forest at NKW on 8 July.

32. *Storeria dekayi dekayi* (Northern Brownsnake) (C1, C2):

One adult was captured and released on a wooded slope, in leaf litter, near the edge of a marsh along the Chickahominy River in C1 on 7 July. Another was found under a log in C2 on the same day.

33. *Virginia valeriae valeriae* (Eastern Smooth Earthsnake) (NK):

Two adults were captured and released along the side of a gravel road in NK on the night of 6 July

Table 1. Summary of the herpetofauna observed during the 2007 VHS Spring/Summer Survey. C1 through C5 = Chickahominy WMA Areas #'s 1-5; NK = New Kent Conference Center property; NKT = New Kent Conference Center trail through woods to the Chickahominy River; NKP1 & NKP2 = New Kent Conference Center Ponds 1 & 2; P614 = small pond next to Rt. 614 in Charles City County, 6.3 kilometers (3.9 miles) south of Rt. 155 (from road cruising on night of 6 July).

| Species | C1 | C2 | C3 | C4 | C5 | NK | NKT | NKW | NKP1 | NKP2 | P614 |
|--|----|----|----|----|----|----|-----|-----|------|------|------|
| Amphibians | | | | | | | | | | | |
| Anurans: | | | | | | | | | | | |
| <i>Acris crepitans</i> | | X | X | | | X | | | X | X | X |
| <i>Anaxyrus</i> (formerly <i>Bufo</i>) <i>americanus</i> | | | X | | | X | | X | | | |
| <i>Anaxyrus fowleri</i> | X | X | X | | | X | | | | | |
| <i>Anaxyrus</i> sp. (unknown) | X | X | X | | | | | | | | |
| <i>Gastrophryne carolinensis</i> | | X | | | | | | | | | X |
| <i>Hyla chrysoscelis</i> | | X | | X | | | X | | | X | X |
| <i>Hyla cinerea</i> | | | | | | | | | | X | X |
| <i>Hyla femoralis</i> | | | | | | X | | | | | X |
| <i>Lithobates</i> (formerly <i>Rana</i>) <i>catesbeianus</i> | | X | X | | | | | | X | X | |
| <i>Lithobates clamitans melanota</i> | X | X | X | | X | | | X | X | X | |
| <i>Lithobates sphenoccephalus</i> | X | | | | | X | | | | X | |
| <i>Pseudacris crucifer</i> | X | | X | | | X | | X | | | |
| Salamanders: | | | | | | | | | | | |
| <i>Ambystoma opacum</i> | | | | | | | | X | | | |
| <i>Eurycea cirrigera</i> | | | | | X | | | | | | |
| <i>Hemidactylium scutatum</i> | | | | | X | X | | | | | |
| <i>Plethodon chlorobryonis</i> | | | | | X | | | | | | |
| Reptiles | | | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|--|
| Turtles: | | | | | | | | | | | |
| <i>Chelydra serpentina serpentina</i> | | | | | | | | | X | | |
| <i>Chrysemys picta picta</i> | | | | | | | X | X | X | X | |
| <i>Kinosternon subrubrum</i> <i>subrubrum</i> | | | | | | | | | | X | |
| <i>Pseudemys concinna concinna</i> | | X | | | | | | | | | |
| <i>Pseudemys rubriventris</i> | | X | | | | | | | | | |
| <i>Sternotherus odoratus</i> | | X | | | | | | | X | X | |
| <i>Terrapene carolina carolina</i> | X | X | X | X | X | X | X | | | | |
| <i>Trachemys scripta scripta</i> | | | | | | | | | X | X | |
| Lizards: | | | | | | | | | | | |
| <i>Plestiodon</i> (formerly <i>Eumeces</i>) <i>fasciatus</i> | | X | | | X | X | | | | | |
| <i>Sceloporus undulates</i> | | X | | | | | | X | | | |
| <i>Scincella lateralis</i> | | | | | | X | | | | | |
| Snakes: | | | | | | | | | | | |
| <i>Carphophis amoenus amoenus</i> | | X | | | X | X | | | | | |
| <i>Coluber constrictor constrictor</i> | X | | | | | X | | X | | | |
| <i>Nerodia sipedon sipedon</i> | | X | | | | | | | | | |
| <i>Opheodrys aestivus</i> | | | | | | | | | | X | |
| <i>Pantherophis alleghaniensis</i> (formerly <i>Elaphe obsoleta</i> <i>obsoleta</i>) | X | | | | | | | X | | | |
| <i>Storeria dekayi dekayi</i> | X | X | | | | | | | | | |
| <i>Virginia valeriae valeriae</i> | | | | | | X | | | | | |

Discussion:

Due to dry and very hot weather conditions, sampling a large variety of herpetofaunal species during the day proved difficult, especially some of the more uncommonly encountered species. The maximum temperatures on 6 July through 8 July were as follows: 32°C (91°F) on 6 July; 35°C (95°F) on 7 July, and 36°C (98°F) on 8 July. There was no precipitation on any of these days. Through road cruising and surveying the New Kent property and areas in Charles City County at night, some members were able to provide more records, particularly for anuran species. The lack of lizards was a bit puzzling, except that it may have been even too hot to see some of these species. Unfortunately, this meant we were unable to obtain a county record in Charles City County for the broad-headed skink (*Plestiodon* (formerly *Eumeces*) *laticeps*).

Other herpetofaunal species for which we had hoped to find county records in Charles City County included: red cornsnake (*Pantherophis guttatus* (formerly *Elaphe guttata guttata*)), southern toad (*Anaxyrus* (formerly *Bufo*) *terrestris*), three-lined salamander (*Eurycea guttolineata*), northern red salamander (*Pseudotriton ruber ruber*), and yellow-bellied slider (*Trachemys scripta scripta*). Cornsnakes are not encountered as often as most of the snake species the survey was able to record, since they are secretive and infrequently encountered even in areas where they are known to occur (Mitchell, 1994). According to the southern toad's range (based on VDGIF's Collections Database and Mitchell and Reay, 1999), both New Kent and Charles City Counties are in an area that is probably in the northwestern most portion of it, or borders it. As for the salamander species, other seasons may provide better opportunities to sample these species, such as early to mid spring or mid fall. For both three-lined salamanders and northern red salamanders, mating most likely occurs in fall, maybe early winter, or in the case Of northern red salamanders may sometimes take place in spring (Petranka, 1998). In addition, late term eggs and hatchlings of northern red salamanders have been found in November in Virginia and in March in Carolina Piedmont, and three-lined salamanders have been found in March in North Carolina (Petranka, 1998). We had also hoped to sample northern diamond-backed terrapin (*Malaclemys terrapin terrapin*) either

Herpetofaunal Survey

along the Chickahominy River or its tidal tributary, Morris Creek. This species has only been documented by one record in Charles City County, so we had hoped for a confirmation record during this survey (based on VDGIF's Collections Database). Other species that have not yet been documented in Charles City County are among the more rare species, or at least rare in samples, such as: eastern slender glass lizard (*Ophisaurus attenuatus longicaudus*), glossy crayfish snake (*Regina rigida rigida*), and eastern lesser siren (*Siren intermedia intermedia*).

In New Kent County, the cornsnake is also a species that has yet to be documented, but unfortunately this survey was unable to record this species in this county, as well. Other possible herpetofaunal species that have not been documented, in New Kent County include: eastern milksnake (*Lampropeltis triangulum triangulum*), rough earthsnake (*Virginia striatula*), northern ring-necked snake (*Diadophis punctatus edwardsii*), and the naturalized subspecies red-eared slider (*Trachemys scripta elegans*). There is some confusion in the literature about whether the red-eared slider is known in New Kent County. According to Mitchell (1994), it is known in New Kent County, but this subspecies is not documented in this county (according to Mitchell and Reay, 1999, or VDGIF's Collections Database).

Acknowledgements:

The following individuals participated in this survey: Kory Steele, Emily and Elijah Cole, Dave and Wes Van Gelder, Mike Clifford, Vincent Passaro, Susan Watson, Paul, Gene, Hanah and Katherine Sattler, Robert and Rosemary Frezza, John (J.D.) Kleopfer, Mitch Bowling, Tim and Nick Christensen, Joy Ware, Nancy and Michael Pearcey, John, Charise, Jennifer, and Amy White, Donna and Rebecca Haynes, Scott, Sophia, and Olivia Duncan, Jason and Mark Gibson, Pattie and Isak Crane, and Ricky Davis. There may have been other individuals inadvertently unnamed above that participated in this survey, as well, and if so, I apologize. Thanks to Crys Gaston, of VDOF, for arranging the lodging and meeting room reservations at New Kent Forestry Center and for allowing survey

activities on the rest of the Center's property. Thanks to Phil West, of VDGIF, for helping with initial planning of survey sites within the Chickahominy WMA. Last but not least, thanks to the reviewers of this manuscript.

Literature Cited:

Mitchell, J. C. 1994. The Reptiles of Virginia. Smithsonian Institution Press, Washington, D.C. 352 pp.

Mitchell, J. C. and K. K. Reay. 1999. Atlas of Amphibians and Reptiles in Virginia. Special Publication Number 1, Virginia Department of Game and Inland Fisheries, Richmond, Virginia. 122pp.

Petranka, J. W. 1998. Salamanders of the United States and Canada. Smithsonian Institution Press, Washington and London. 587 pp.

Virginia Department of Game and Inland Fisheries. 1995 to 2008. (including data recorded prior to 1995) Collections Database.

Virginia Herpetological Society 1958-2008

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2008

Most of the story of the founding of the Virginia Herpetological Society (VHS) has been told in previous issues of *Catesbeiana* on an earlier anniversary. A few details, deemed less consequential then, may be suitable now to mark the occasion. Some early notes may be amusing if not enlightening.

The VHS is fifty (50) years old!

Today's VHS members may be surprised to learn that their society was designed along lines of a pre-existing mineralogical society. As a teen-age member of that group I carefully observed how it operated. To my taste, it was short on procedure and long on mineral content! The founding-members were still attending meetings when I, a high-school sophomore, was elected to membership in 1935 (member #48).

The early VHS secretary simply followed a familiar pattern, dropping mining, mineralogy, crystallography and geology – putting in their place amphibians, reptiles and zoogeography, of which we knew little at the time of our formation.

Individuals, known-to-be interested in Virginia's salamanders, toads, frogs, turtles, snakes and lizards weren't all that hard to find in the mid-1950s. Dr. Doris M. Cochran, curator of the division of reptiles and amphibians at the Smithsonian Institution's natural history museum, provided names (and addresses) of the people in the area who had come to her attention.

In a talk to medical officers at Camp Forrest, Tennessee in 1944, I had used Dr. Cochran's wartime handbook on poisonous reptiles. [We thought our army medical regiment was headed for the China-Burma-India sector of war.] When I told Dr. Cochran that fact in the mid-1950s she exclaimed: "Oh! I thought that pamphlet had dropped into a black-hole and gone into outer space!" Doris Cochran was no stranger to readers of the *National Geographic*

magazine: Her articles: "Our Friend the Frog" (1932), "Nature's Tank, the Turtle" (1952); and "Snake Friends and Foes" (1954), had been avidly read by wildlife enthusiasts and young summer-camp naturalists, in particular.

Scouting had a built-in out-of-doors following in the shape of the counselors in "Reptile Study" and Zoology merit badges. Mr. Oliver K. Goodwin* was an explorer-advisor to a group of young men in the Hampton Newport News area. His crew of Explorers, with the help from key people at the near-by marine life laboratory, undertook a survey of the peninsular area which attracted statewide attention. O.K. Goodwin and Frank Tobey exchanged letters and when OKG had to make a business trip to the Washington, D.C. area, they got together in a magazine office in mid-afternoon, taking the first steps towards VHS.

Time for a flash back! The writer had been a regular visitor to the N.Y. Zoological Park ("Bronx Zoo") known best, at the time, for reptile "expert" and author, Raymond Lee Ditmars in the 1920s and 1930s. Tobey's parents had presented the 1933 graduate from grade school with a copy of Ditmars' *"The Reptile Book"* (1909). It shot down freshman Latin in high school, but it wasn't a complete loss!

On rainy days the subway trip to the zoo suddenly turned into Saturday at the American Museum of Natural History (Central Park West & 79th Street). In spring 1935 the museum's new "associate member" (subscriber to *Natural History* magazine) with card in hand, dared go through a closed door that was marked "Employees Only!" and found his way to the greenhouse on the museum's roof.

While regrettably never confirmed, the writer is virtually certain that the young giant feeding the caged reptiles was (then, college student) John Thornton Wood, known to have been a seasonal AMNH employee . . . John T. Wood, M.D., this society's first president (1958-1960) was a hard-to-hide distinct and impressive personality! In 1935 at the greenhouse on the AMNH roof, however, he was busily engaged in chopping earthworms in a hemispheric wooden bowl with a double-bladed metal knife each

Virginia Herpetological Society

blade of which was semi-circular – a “ulu”. I had fed lower-vertebrates at both summer-camp and our municipal museums, but never had seen such an apparatus!

Thinking the ulu-wielder totally pre-occupied, the writer (age 16) slipped a slow-moving hand into a yard-cube snake cage to retrieve a shed skin on its floor. The screen lid was removed for only a few seconds. Later, as I passed the college student's post, he commented: “You know, those vine snakes (*Oxybelis*) are **mildly poisonous!**” (A Panama back-fanged species resembling our rough green snake.)

Moving to Fairfax County, Virginia, in 1948 I had established contact at the U.S. National Museum of Natural History by 1950, primarily in the division of mineral sciences with James Benn and Dr. George Switzer, *etc.* A visit to the reptile division to see a specimen in “the range” brought me face-to-face with Dr. Cochran. Over the years, and especially through William L. Witt, then a biology student in an Arlington, VA. High school, Dr. Cochran “came on board” as a friend and encourager of the VHS goals and effort. In this, she was joined by Dr. Phoebe H. Knipling, the guiding-light of the Northern Virginia science fairs (Westinghouse). At a 1960 science fair held in Patton Hall on the military post at Arlington (Fort Myer), the VHS had exhibit space and attracted many northern Virginia friends and eventual members. Phoebe Knipling was the first VHS treasurer.

In March 1961, VHS members appeared on WETA-TV's “Time for Science” program. Mr. William Keeler of Falls Church, VA., and his two young sons showed their reptile specimens and spoke of the care and feeding required. The following week's wrap-up, the VHS secretary/coordinator presented Dr. T. Darrell Drummond, the host for “Time for Science” with a membership card in VHS which was displayed to viewers; area membership grew. The rest, as they say, “is history”.

Literature Cited:

Cochran, Doris M. 1943. Poisonous Reptiles of the World: A wartime handbook. War Background Studies #10 (publ. 3727), Smithsonian Institution Press 37pp.

Cochran, Doris M. In *National Geographic* magazine: "Our Friend the Frog" (May 1932); "Nature's Tank, the Turtle" (May 1952; and "Our Snake Friends and Foes" (September 1954).

FIELD NOTES

***Notophthalmus viridescens viridescens* (Red-spotted Newt).** VA: Alleghany Co, Tuscarora Pond, Douthat State Park (N37° 53' 11.1" W 79° 49' 17.2"). 23 February 2008. J.Gibson and P. Sattler. Mortality: The struggle for survival in a vernal pool is extremely difficult. Water level fluctuations, intense predation, competition for food, and freezing all make reproduction and survival tenuous. Individual animals which cannot tolerate these harsh biotic and abiotic factors die. In this field note we document a mass mortality event of red-spotted newts that were pushed beyond their physiological tolerance for cold. On 23 February 2008 we visited Tuscarora Pond in Douthat State Park, an upland vernal pool, to survey Jefferson salamanders and to count egg masses from this species. Two weeks previously, PS observed Jefferson salamander eggs masses, wood frog eggs masses, many live wood frogs and Jefferson salamanders, and around 30-50 red-spotted newts in this vernal pool. Two pairs of red-spotted newts were observed in amplexus. As part of an ongoing study on Jefferson salamanders we went to survey the pond for new egg masses that were deposited since the previous two weeks. As we walked toward to the pond we discovered that it had dried up completely. This left many wood frog egg masses and Jefferson salamander egg masses stranded out of water. On closer inspection of the egg masses we discovered a small mass mortality event involving red-spotted newts. A plastic bag was used to collect the bodies of nine dead newts. Three of the newts were female and six were male (see table 1 for measurements).

Table 1. Snout vent length (SVL) (mm) measurements of individual red-spotted newts.

| SVL | Sex |
|---------|--------|
| 41 mm | Male |
| 44.5 mm | Male |
| 41.5 mm | Male |
| 38 mm | Male |
| 39 mm | Male |
| 44 mm | Female |
| 43 mm | Female |
| 45 mm | Female |

In addition to the dead newts we were able to find four live newts under or around the egg masses (three were males and one was not documented for sex). Another three live newts were found under logs at the periphery of the pond and one was observed immigrating to the site of the exposed egg masses. Two of these were male and one female. The red spotted newt is a hardy amphibian. Bazuin (1983. Reptiles and amphibians of the dioritic section of the green springs igneous intrusion, Louisa County, Virginia. *Catesbeiana* 3(1) 13-16) and Gibson (2001. Amphibians and reptiles of Powhatan County, Virginia. *Catesbeiana* 21 (1): 3-28) both report observing red-spotted newts swimming under ice in December and January respectively. Its physiological range of tolerance is so great that it has been documented to be active in all months of the year (Gibson, op.cit.). In order to withstand the cold temperatures of the winter, this species utilizes antifreezing behaviors like staying under water and going underground (Mitchell. 1996. Frozen frogs and cold salamanders. Virginia Wildlife December: 26-30.) During this event, we speculate that as the pond began to dry, many of the newts emigrated from the pond to seek refuge under logs and debris but a small number of newts stayed and were trapped in the drying habitat. To escape the drying and cold temperatures, the newts attempted to find shelter under all the wood frog egg masses that were left on the ground. We observed that ice had formed under the egg masses where there was still a small amount of residual water. The egg masses did not freeze but the water under them did thus the newts were trapped in a freezing environment. Some of the newts we found were half covered by egg masses and half exposed (fig 1); while others were dead on the surface around the egg masses (fig 2).

Field Notes



Fig.1. A dead red-spotted newt half exposed and half under an egg wood frog egg mass.



Fig.2. A dead red-spotted newt dead on top of wood frog eggs.

Many raccoon foot prints were viewed around the egg masses and site of mass mortality. There was evidence around the pond of raccoons eating wood frogs. One wood frog head was found and so were some intestines from a wood frog. On several logs around the periphery of the pond, wood frog eggs were found. The raccoons must have eaten all the frog parts leaving only the eggs on the logs. All of the newts collected were evaluated for signs of predation or

scavenging but none had any wounds or marks on their bodies. This is odd that raccoons didn't take advantage of the "free food" because they are known to be able to tolerate eating red-spotted newts (Gill. 1978. The metapopulation ecology of the red-spotted newt, *Notophthalmus viridescens* (Rafinesque). Ecological Monographs 48: 145-166.). Perhaps we timed our visit right when the deaths occurred leaving no opportunity for scavenging. Mortality events and declines in amphibian populations are of great interest since the reports of worldwide declines in this group (Lannoo, M. 2005. Amphibian declines: The conservation status of Unites States species. Univ. California Press, Berkeley and Los Angeles, CA 1094pp.). In Virginia, Sattler (1995. Amphibians and reptiles from Candler Mountain, Campbell County, Virginia. *Catesbeiana* 15(2): 35-44.) reported red-spotted newt declines in a pond in Campbell County due to unknown reasons. Roble (1999. Amphibians and reptiles of beaver pond habitats in the Laurel Fork Recreation Area, Highland County , Virginia. *Catesbeiana* 19(2): 51-60.) noted eight dead newts on 6 June 1996 and 5 dead newts on 23 May 1997 in beaver pond habitats in Highland County. The cause of death was not determined. A vehicle-caused mass mortality event for the terrestrial eft life stage of the newt has been reported in Goochland County, Virginia (Mitchell. 2000. Mass mortality of red-spotted newts (*Notophthalmus viridescens* *viridescens* Rafinesque) on a central Virginia road. *Banisteria* 15: 45-46.). Are declines of this species occurring in Virginia? We encourage all mortality and morbidity observations of this species, or any species of amphibian, be documented so we can ascertain if the worldwide phenomenon of amphibian decline is happening in our region.

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Field Notes

***Pantherophis alleghaniensis* (Eastern ratsnake).** VA: York Co., Yorktown, 113 Davids Way, 37° 10' 26" N, 76° 27' 49" W. 25 April 2008. Timothy P. Christensen.

Net Entanglement: On 25 April 2008 at approximately 1430 h I received a call from a neighbor concerning a large snake entangled in some material in her yard. I arrived at approximately 1500 h to find an adult Eastern ratsnake (estimated length of 94 cm) entangled in deer netting that the neighbor placed along a split rail fence intended to keep a dog in its yard. The snake had crawled through the openings of the material to where most of its body was entangled, and it was unable to free itself. It took nearly 20 minutes to effectively free the snake from the fencing but cutting the material with scissors. In some areas the netting material was very tightly wrapped around the snake's body, and it appeared that some scales were damaged but actual tissue damage did not seem evident. The specimen was immediately taken to a local veterinarian who indicated that no serious damage existed. It remained active and did not display any problems with mobility. Nonetheless, the snake would have died had not been removed from the netting. The snake was released a short distance from where it was found; however, it became entangled in the fencing within 2 hours later. It was freed again; however, the snake regurgitated from being tightly entangled the second time (the prey item could not be identified). It was released a second time approximately 200 yards from the location. The deer fencing was monitored daily until it was replaced, and the snake was not found entangled further. On 10 May 2008, I received a photograph and limited information about a Northern black racer (*Coluber constrictor constrictor*) found entangled in plastic landscaping material similar to fishing line. The location of the incident was at a local park in York County, Virginia; however, no other details were available. I was contacted on 10 June 2008 by another resident finding a snake entangled in a netting material covering a garden pond in at another location in Yorktown. The species was identified as a Northern watersnake (*Nerodia sipedon sipedon*) following examination of the carcass. Estimated length was 60 cm. These observations support the report by Mitchell, Gibson, Yeatts and Yeatts (Catesbeiana 2006, 26(2): 64-69)

describing mortality of several snake species entangled in plastic and horticultural netting in Virginia. These incidents also pose the question of how (and where) to effectively release individuals that survive to avoid possible subsequent entanglement.

TIMOTHY P. CHRISTENSEN

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***Pseudemys rubriventris* (Northern Red-bellied Cooter).** VA: City of Newport News, Fort Eustis Military Reservation, 37° 9' 37", 76° 36' 10". 17 June 2008. Timothy P. Christensen.

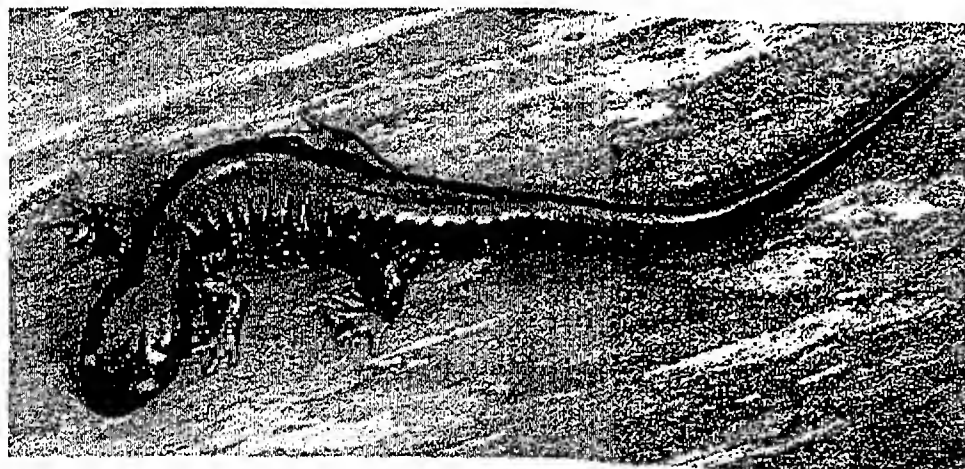
Nest Predation: On 17 June 2008 at approximately 0830 h, an adult female Northern Red-bellied Cooter was observed nesting on a lawn adjacent to hardened surface road in the shade of a willow oak (*Quercus phellos*). The turtle was monitored periodically by installation natural resources staff from a distance to avoid disturbance. By 1000 h a fish crow (*Corvus ossifragus*) was observed on ground less than one m from the turtle. The turtle continued to lay eggs, and the crow moved about on the ground in the immediately vicinity for several minutes. At one point a passerby chased the crow away. By 1045 h the turtle apparently finished depositing eggs. It had been facing in a general westerly direction during deposition but when it completed the deposition it moved towards the east in the general direction of a man-made lake located several hundred feet away. The turtle crossed the adjacent road and then traveled down an embankment crawling over a concrete parking block at the bottom. It then traversed a large open gravel parking area (devoid of vegetation). When it reached the opposite side of the gravel parking area, the fish crow landed on the ground next to the turtle and followed the latter's general movement. The turtle negotiated the upward slope of a second embankment (an embankment encircles the gravel parking area). As the turtle approached the top of the embankment a second crow appeared. At the top of the embankment the turtle encountered another hardened surface road separated from the embankment by a

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guardrail. It could easily move beneath the guardrail but instead followed a zigzag route across the embankment paralleling the road. Both crows followed the turtle on the ground but did not attack it at any time. Eventually the turtle crossed the second road and moved into a narrow forested stand of predominantly loblolly pine (*Pinus taeda*) containing some herbaceous ground vegetation. It presumably entered the adjacent lake just beyond the forested stand. By 1145 h, the crows had raided the nest. A single hole of approximately 3.17 cm diameter had been excavated. One egg shell lay next to the hole, and one crow was observed flying away with an egg in its beak. The staff did not inspect the nest further but covered the opening with dirt and placed a bucket over the nest so preclude additional predation so as to record the incubation period and the movement of surviving hatchlings. Likely the crows would have predated the entire clutch. This observation demonstrates how quickly nests can be predated and that avian predators may represent significant threats. The approximate straight line distance from the nest to the lake is 162 m. The turtle traveled approximately 191 m and negotiated several significant obstacles (two roads, parking blocks, a large open gravel area and the embankments) to reach its nesting site. It took approximately one hour for the turtle to travel the distance of 191 m.

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***Ambystoma maculatum* (Spotted Salamander).** VA: Fairfax Co., Bull Run Regional Park, 7700 Bull Run Drive, 38°48'09.1"N, 77°38'35.3" W. 16 March 2008 John White



Color Variation: An atypically patterned, postbreeding, adult, male spotted salamander was found near a vernal pool close to Bull Run at approximately 1200h on 17 March 2008. The specimen measured 85mm SVL and 163 mm in total length and weighed 14 g. The dorsum was a uniformed shiny bluish-black. The typical yellow spots found on the dorsum of this species were absent. The sides and limbs had numerous white flecks that averaged 0.1 mm. An atypically colored and patterned specimen from the same general location was documented in *Catesbeiana*, Volume 22, Number 1, 2002, page 17. This specimen represents the first documented observation of a non-spotted *A. maculatum* in Virginia. (Personal communication with Joe Mitchell and Don Church) Adult spotted salamanders that lack spots occur in low frequencies in certain populations (Conant, R. and J.T. Collins. 1998. *A Field Guide to Amphibians and Reptiles, Eastern and Central North America*. Third Expanded Edition. Houghton Mifflin Co. Boston. 616 pp.; Petranks J.W. 1998. *Salamanders of the United States and Canada*. Smithsonian Press, Washington D.C. 587 pp.). Digital images were deposited in the VHS Digital Archive (#108-109).

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***Ambystoma maculatum* (Spotted Salamander).** VA: City of Danville, Dan Daniel Memorial Park (36.574707° N 79.366693° W, elevation 449 ft). 17 March 2007. Galileo Magnet High School IB Biology Students.

Reproductive Data: On 17 March 2007, a group of International Baccalaureate Biology students conducted a herpetological survey of a vernal pool in Dan Daniel Memorial Park in the City of

Danville. This yearly survey is an attempt by our school to document the health and changes to this vernal pool in addition to documenting baseline data on egg mass numbers. The vernal pool is located at the base of a wooded gulch in Dan Daniel Memorial

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Park. It is a man-made structure that formed when US 29 was constructed over a small ephemeral stream. The culvert draining the stream under the highway is set higher than the stream, forming the pool from run-off coming from the stream and surrounding land. The culvert maintains the vernal pool at a maximum depth of .392 m with dimensions of 22 x 14 m. The pool changes depth depending on beaver activity. At present, beaver constructions have been destroyed by city employees, giving the pool its current shallow nature. The ephemeral stream feeding the vernal pool originates from a pipe which is the outflow of a constructed run-off retention pond. The water is dark brown, due to decomposing hardwood leaves. The main focus of this field note is to document the large number of spotted salamander egg masses observed. Upon arriving at the pool, *Pseudacris crucifer* (Northern Spring Peeper) and *Pseudacris feriarum* (Upland Chorus Frog) were heard vocalizing from the margins of the pool. For approximately 4 hours, egg masses were systematically collected from the pool and brought to a group of students who counted, aged, and recorded the data for each egg mass. Two students and JG searched the entire pool until all egg masses were collected. A total of 23,751 embryos were counted in 393 egg masses. The average number of eggs per mass was 60.4 (SD = 29.7). An additional 49 egg masses were collected but not entered into the statistical summary due to lack of time during this school outing.

Gibson and Merkle (2005. Natural history notes: *Ambystoma maculatum*. Herpetological Review 36: 294.) report a mean of 71.9 eggs per mass in a count of 158 egg masses in Powhatan County, Virginia. Our mean eggs per mass is lower than their observations but is within the range reported for the species (Petranka. 1998. Salamanders of the United States and Canada. Smithsonian Institution Press, Washington, D.C. 587pp.).

Students participating in this survey included: Chris Andrews, Devin Braun, Juliana Cano-Mejia, Trenton Covington, Taylor Dix, Taylor Gauldin, Ashley Jones, Timur Kamilov, Philipp Kotlaba, Pelashia Moore, Erik Nyholm, Kayren Pleasant, Wyatt Ramsey, Katie Strickland, Ariel Talts, Prateek Vasireddy, Kristen

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Terrapene c. carolina L. (Eastern Box Turtle). VA: Fauquier Co., 4 km NW Sumerduck, VA, Chester F. Phelps Wildlife Refuge (-77.7668411, 38.4767481 NAD 83, Elev. 339 ft. 29 February 2008. 2:35 p.m., Michael D. Killian, Jay McGhee

Juvenile Mortality: Eastern box turtle populations are considered to be in decline (Hall, R. J., P.F.P. Henry, and C. M. Bunck. 1999. Fifty-year trends in a box turtle population in Maryland. *Biological Conservation* 88: 165 – 172.). While walking along a closely mowed power-line cut (and county road right of way) in route to our salamander survey site, a dead juvenile Eastern Box Turtle (30 mm carapace length, 29 mm plastron length, 5.9 g body mass—after preservation in formalin) was found on the soil surface. The lack of desiccation and decay suggests that this individual had died recently. There were no obvious signs of trauma though there was a small red (blood) spot on one of its legs. The body of this hatchling-sized individual showed staining with red clay soil giving the appearance of having recently been in its hibernaculum. Neil (Neill, W.T. 1948. Hibernation of amphibians and reptiles in Richmond County, Georgia. *Herpetologica* 4: 107-114) suggests that death due to cold temperatures during premature emergence is a primary cause turtle mortality. The previous night's low was 14°F (www.weather.com), and so death was likely caused by premature emergence and cold exposure. Juvenile mortality is considered to be high for the species (Harding, J. H. 1997. *Amphibians and reptiles of the Great Lakes Region*. University of Michigan Press, Ann Arbor, MI. 378 pp.). We suggest that research is needed to determine if premature emergence juvenile mortality acts as a primary determinant of population growth, and whether habitat

Field Notes

fragmentation may affect rates of premature emergence (such as road vibrations).

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Terrapene Carolina Carolina (Eastern Box Turtle). VA: Craig Co., USFS Forest Road 179, 5.0 km NE of intersection with Co. Rt. 611. 13 July 2006. William Hunley

Cannibalism: Records of cannibalism among Box Turtles are very rare (Dodd, 2001. North American Box Turtles: A Natural History, University of Oklahoma Press, Norman OK. 231 pp.). I found an adult female Box Turtle feeding on the remains of a fresh DOR conspecific. The carapace and plastron of the dead turtle were partially crushed, and viscera were exposed. There was much evidence of feeding as the living turtle was smeared with blood and had bits of flesh on its mouth, face and forelimbs. Weather conditions were overcast and warm (approx. 30 degrees Celsius). The road and surrounding vegetation were wet from recent showers.

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***Hyla versicolor* (Gray Treefrog).** VA: Loudoun County, Leesburg, intersection of Miller Drive and Sycolin Road. 28 June and 5 July 2008. William D. Robertson.

County Record: At 2150 h on 28 June 2008, a treefrog consistent with either *Hyla versicolor* or *H. chrysoscelis* was observed clinging to the outside back wall of 741 Miller Drive, SE, at a height of

roughly 1.5 meters. At the same time, Gray Treefrogs (*H. versicolor*) were heard calling approximately 300 meters to the east at the intersection of Miller Drive and Sycolin Road. At 2115 h on 5 July 2008, digital recordings were made of the treefrog calls at this intersection. The frogs were calling in the vicinity of two drainage ditches in an area of overgrown fields interspersed with trees. *Hyla versicolor* has not previously been documented in Loudoun County (Mitchell and Reay, 1999. Atlas of Amphibians and Reptiles in Virginia. Special Publication Number 1, Virginia Department of Game and Inland Fisheries, Richmond, VA. 122pp.). A digital image (VHS Archive #106) of the frog seen on 28 June 2008, and a digital recording (VHS Digital Archive #107) of one of the calls heard on 5 July 2008, have been deposited in the VHS archives.

William D. Robertson
2912 Bryan St.
Alexandria, VA 22302

***Amphiuma means* (Two-toed Amphiuma).** VA: Sussex County, Piney Grove. (36° 58' 18.69" N; 77° 4' 6.12" W). 5 June 2008. John (J.D.) Kleopfer and Leeanna Pletcher; 6 June 2008 John (J.D.) Kleopfer and Susan Watson.

County Record: The Two-toed Amphiuma (*Amphiuma means*) is found throughout the Coastal Plain from southeastern Virginia to Florida and west to Louisiana. This species inhabits a wide variety of permanent and ephemeral aquatic habitats that are relatively shallow and heavily vegetated. They will also occupy canals and ditches, which is why they are sometimes referred to as 'ditch eels' (Lannoo, 2005. Amphibian Declines: The Conservation Status of United States Species. University of California Press, Berkeley and Los Angeles, CA. 1094 pp.). From 2 - 6 June 2008, we surveyed a small pond (< 1 hectare) at Piney Grove Preserve in Sussex County. The site is dominated by black gum and surrounded by loblolly pine. Submerged and emergent aquatic vegetation is abundant throughout late winter and spring. The deepest area of the pond may

Field Notes

reach a maximum depth of 1.5 m. Only during periods of flood will it exceed more than 1.5 m.

On June 5 2008, one Two-toed Amphiuma was captured and on June 6, 2008, three were captured. In one trap, two Amphiumas were captured. The smaller of the two had suffered severe lacerations which appeared to have been inflicted from the larger Amphiuma. Although Amphiumas have been known to inflict serious bites when handled (Duellman and Trueb 1986. Biology of Amphibians. Johns Hopkins University Press, Baltimore, MD. 670 pp.), it has been the experience of JDK that this species will not attempt to bite, if handled gently.

In Virginia, records for Two-toed Amphiumas are considered spotty (Mitchell and Reay. 1999. Atlas of Amphibians and Reptiles in Virginia. Special Publication No. 1, Virginia Department of Game and Inland Fisheries, Richmond VA. 1222 pp.). However, this is probably a result of the secretive nature of the species, survey methodology and efforts. Traditionally, minnow traps have been the tool of choice when conducting surveys for *Amphiuma means*. However, recent studies have shown greater success in using commercial crayfish traps¹ (Johnson and Barichivich 2004. A simple technique for trapping *Siren lacertina*, *Amphiuma means*, and other aquatic vertebrates. Journal of Freshwater Ecology, Vol. 19. No. 2. pp. 263-269). Commercial crayfish traps are approximately 0.7 m (2.5 ft) in height and consists of a 1) bell-shaped trap chamber, 2) three funnel entrances, 3) a neck or "chimney", and a 4) lid. The greater height of the commercial crayfish trap over a minnow trap gives it the ability to accommodate increases in water level and therefore reduce salamander mortality associated with drowning. Heavy rain events can submerge minnow traps and drown salamanders (JDK pers. obs. 2006). The drawback of the commercial crayfish trap is its cost (\$50.00) and difficulty to transport due to its relative large size. Although the standard method of measuring an Amphiuma is to use a squeezebox (<http://www.pwrc.usgs.gov/monmanual/techniques/crayfishtraps.htm>), we may have discovered a new method for measuring this species. Using a 75.7 l (20 gal) Rubbermaid trashcan lid, we laid the

Amphiuma on the underside of the lid with some water. As we tilted the lid approximately 30 degrees, the animal stretched out along the inside lip of the lid. The weight of the animal appeared to hold it against the edge of the lid, which enabled us to measure its length (total length 92 cm). Additional field tests are needed before any conclusion can be made on the effectiveness of this method.

In Virginia, the Two-toed Amphiuma appears to be common where suitable habitat exists and considering the vast amount of suitable habitat in Virginia, their conservation status appears to be secure (JDK pers. comm. 2008). This is a new county record for Sussex County and fills a distribution hiatus of this species in Virginia. A digital image has been deposited in the VHS archives (digital voucher #112).

Also captured at the same site were *Pseudemys concinna floridana* (Coastal Plain Cooter), *Chrysemys picta picta* (Eastern Painted Turtle), *Sternotherus odoratus* (Stinkpot) and *Chelydra serpentina serpentina* (Eastern Snapping Turtle). These species were captured using unbaited 1.82 m (6 ft) hoop nets with 7.62 m (25 ft) net leads.

¹Lee Fisher International, 3922 West Osborne Ave, P.O. Box 15695, Tampa FL 33684

John (J.D.) Kleopfer, Leeanna Pletcher, and Susan Watson
Virginia Department of Game and Inland Fisheries
3801 John Tyler Memorial Highway
Charles City, VA 23030

President's Corner

Fall is approaching and the VHS remains busy! I would like to take this opportunity to thank many folks who helped the VHS have a successful and full schedule of survey events this past spring and early summer. First, I would like to thank Tim Christensen and the National Park Service staff at Colonial National Historical Park, especially Dorothy Geyer (Natural Resource Manager) and P. Daniel Smith (Superintendent) for putting together a wonderful VHS Annual Survey focusing on various sites of the property, surrounding both Yorktown and Jamestown. There were many great finds at this survey, including the first cottonmouth to be documented within the park property! Next, I would like to thank Jason Gibson for once again leading and organizing the VHS Annual HerpBlitz. This was a wonderful event at Grayson Highland State Park. This was definitely a great survey for salamanders, and everyone was pleased to find great specimens of the colorful Yonahlossee salamander! Further thanks go to Jason for coordinating VHS's participation in other surveys: the Amphibian and Reptile BioBlitz at Dan Daniel Park in Danville and the Resource Ramble II at the Camp Powhatan Blue Ridge Boy Scout Reservation in Pulaski County. Thank you to all participants in these events, too!

I also want to thank everyone who helped with the 2nd Annual Reptile Day Festival at the Virginia Museum of Natural History, on July 26th. That means more thanks to Jason! Plus, many thanks to Paul Sattler and Kory and Emily Steele!

Another thank you goes to John White, our VHS webmaster, for always keeping our website up to date with information regarding our events. He also does a wonderful job at simply keeping our website looking good with many of his great photos and photos from event participants. Plus, he keeps other information updated, such as taxonomic changes in species' names.

All officers and active members deserve many thanks for all the work they do to keep the Society going! VHS would surely suffer without them!

I am excited for the upcoming Fall Symposium and 50th Anniversary Celebration being hosted by Virginia Commonwealth University and VHS officer, Joy Ware (VCU faculty member), on October 4 & 5, 2008. I was very happy to have Dr. Kurt Buhlmann accept my invitation to be VHS's keynote speaker on October 4th, in Richmond. We will also have Drs. Steve Roble and Joe Mitchell present the history of the VHS on October 4th. October 5th will be at VCU's Rice Center in Charles City County, where there will be a WildlifeMapping Workshop for anyone interested in registering for this program. As well, there will be other great speakers and activities. I hope everyone will be able to join us for this great and historic event!

Everyone please check the VHS website, www.vaherpsociety.com, for all the details on the Symposium. As well, keep checking the website often, as any changes and updates are made to the Symposium or other upcoming VHS events.

Susan Watson
VHS President

Dues Reminder

Membership in the Virginia Herpetological Society is on a calendar year basis (expires annually on December 31). **Please renew your membership for 2009 now** to save our Treasurer the time and expense needed to send you a renewal notice. See the last page of this bulletin for the membership application/renewal form. Inclusion of your email address on the form provides the Society with the easiest and cheapest method of distributing the Newsletter to members and informing you about upcoming meetings, field trips, and other events.

Virginia Herpetological Society
Minutes of Spring Meeting
May 16 - 18 , 2008
Colonial National Historic Park
York County and James City County, VA

The Spring Meeting was called to order at 6:15 p.m. by our president, Susan Watson. Twenty-nine members attended. This year's meeting was not a business meeting as tradition holds; rather, it was a meeting focused on the survey to be held over the next two days. Along with the help of Tim Christensen, Susan reviewed the likely species to be found and maps of the almost 9,300 acres to be traversed. Team leaders were assigned and site locations for each team were determined. After rules and precautions were reviewed by park officials Dorothy Geyer and Dan Smith, the meeting was adjourned at 7:00. Committees provided the secretary with the following reports:

Treasurer and Cafe Press: Pattie Crane reported that since December 2007 the VHS received \$1,435.16, mostly in part to membership dues. Cafe Press did bring in \$229.57, with the calendars and posters being our best sellers. Total disbursements were \$1,618.98, with the largest portion going to the VHS Grants. Balance on hand was \$5,588.86.

Education Committee: Mike Clifford reported much success in educating the public on herps. He would like to know how other members are doing their part and encourages all members to submit reports to him which show their educational efforts on behalf of the VHS. If interested in doing more and serving on this committee, members should contact Mike, mjc4h@vt.edu -or frogholler@hughes.net. Recent activities were as follows: 1. Natural Resources Conservation Service (NRCS) biologist Julie Hawkins contacted VHS about providing a Virginia herps training session for NRCS personnel and Soil & Water Conservation

District personnel. We developed a PowerPoint side show based on the *PARC Habitat Management Guidelines for Amphibians & Reptiles of the Northeastern United States* in conjunction with range maps from the VHS website and representative herp photos from

various sources. The program was presented by Mike Clifford on April 15 at the SunChase Cinema in Farmville.

2. The Virginia Science Olympiad requested help from VHS in developing the herpetology section test for both the middle and high school divisions of the state tournament. Susan Watson, Mike Clifford, and Jason Gibson developed the questions, quiz photos, and answer keys for the April 26 competition, held in Burke, Virginia. For more about the Science Olympiad, see <http://www.soinc.org/>.

3. A hands-on "Snakes Alive" show for a hundred kids and parents was presented by Mike Clifford at the 2008 Virginia 4-H Natural Resources Weekend. Herp programs featuring native species were very popular at this statewide event, which is held every January at Holiday Lake 4-H Educational Center near Appomattox.

4. "Snakes at Home & In the Garden" was presented by Mike Clifford at the 20th Annual Master Gardener College on June 23, 2007, at Virginia Tech. Master Gardeners are volunteers that work out of Extension offices throughout the state. Judging from the discussions during the training session, they handle lots of "what snake was that?" questions that are called or brought in (usually dead) to the Extension offices.

Conservation Committee: Tim Christensen reports the following:

1. The Conservation Committee current includes the following members: Tim Christensen, Sarah Orlofske, and Todd Fredericksen. Various information has been placed on the website (<http://fwie.fw.vt.edu/VHS/Conservation/vhsconservation.htm>) including the document "Homeowner's Guide to Protecting Frogs – Lawn and Garden Care" published by the US Fish and Wildlife Service.

2. The Conservation Committee presents the following tasks and statuses: a. "Conservation of Reptiles and Amphibians in Virginia" presentation.

Minutes

(1) The final draft of the initial version has been completed. Feedback was received from VA Department of Game and Inland Fisheries (VDGIF). This presentation was given to two Master Naturalist Chapters (Historic Rivers on February 7, 2008 and Tidewater on March 20, 2008) as a preview to solicit initial input. Both Chapters concur that it would be useful and that members would be interested in participating. Additionally, it was presented to 2 members of the Loudon County Amphibian Monitoring Program (LAMP) on March 29, 2008. Reception by LAMP participants was equally positive. The Committee recommends the final draft be presented to the membership during the Fall 2008 meeting or be placed on the website for the membership to review.

(2) Initially targeted audiences for this version include Master Naturalist Chapters and school teachers. Other possible forums include Cooperative Extensions, Reptile Weekend at the Virginia Living Museum, VDGIF's Outdoor Education Program, corporate landowners, homeowner associations and neighborhoods. Specially tailored programs could be developed for students, 4-H, Boy Scouts and Girl Scouts.

(3) This is intended to be a managed program. It could include use of copywrite materials, designation of instructors with a "Train the Trainer" program, preparation of Trainer information packets, documenting the presentation (audience, date, location), reporting feedback, evaluating opportunities for expansion, develop information packets and periodically reviewing & updating the presentation & other materials. Much of this work is still under development.

b. Promoting and Participating in the WildlifeMapping Program (originally Task #4). Including data on herpetofauna would help biological databases. A link to the VDGIF's WildlifeMapping Program was included on the VHS website. A WildlifeMapping Workshop was given by Tim Christensen to VHS members, Master Naturalists and LAMP participants at Banshee Reeks Nature Preserve in Leesburg on March 29, 2008. Discussions with VDGIF Watchable Wildlife Section staff began for consideration of a

WildlifeMapping Workshop made available for interested members during the Fall 2008 Meeting.

c. Partnering with other non-profit natural resources-focused groups (originally Task # 5). The Committee proposed partnering with other non-profit natural resources-focused groups. Initial coordination was made by the Committee with the Virginia Chapter of The Wildlife Society (VTWS). An exchange of website links between VHS and VTWS was completed. The VTWS at one time was planning a "Virginia Fish and Wildlife Summit" conference in 2009 with the primary goal to centralize fish and wildlife professionals in Virginia in order to improve coordination, information sharing and professional development. This could be a good opportunity to develop conservation efforts. They indicated they would welcome VHS' participation in the conference. No other details have been provided, but Tim is serving as a VHS point of contact as plans progress. No new information is available at this time.

d. Threats to Herpetofauna Poster (originally Task # 6). The Committee proposed designing charts/posters that illustrate threats to herpetofauna. The suggestion is to have separate materials for anurans or amphibians as one group and one for turtles & snakes or reptiles as another group. This could potentially be made available for sale through the VHS Store, provided to schools, etc. Proceeds could go towards specific conservation-related projects. No further action has taken place since its proposal.

e. Federal Duck Stamp Promotion. Thanks to a great idea by Joy Ware, VHS is promoting the purchase of Federal Duck Stamps. Joy displayed a Duck Stamp poster (borrowed from the Rappahannock River Valley National Wildlife Refuge) during Reptile Weekend at the Virginia Living Museum in February. She recommended more effort by VHS in promoting Duck Stamp purchases to help support the Refuge System. Ninety-eight cents of every dollar generated by the sale of Federal Duck Stamps goes toward purchase or lease of wetlands within the National Wildlife Refuge System. This supports efforts towards habitat for herpetofauna. Information about Federal

Minutes

Duck Stamps was incorporated into the VHS website.

f. Loudoun County Amphibian Monitoring Program (LAMP). Tim met with LAMP participants in March 29, 2008. LAMP is a community effort to monitor amphibians in that county. LAMP may serve as a template/standard by which other counties/municipalities could create similar programs. It is recommended that LAMP representatives provide a presentation about their program at the Fall 2008 meeting. Conservation Committee members are looking more into this program.

Research Committee : The VHS Research Committee plans to include disease and/or malformation monitoring into future surveys conducted by the Virginia Herpetological Society. This will involve examining all reptiles and amphibians for external evidence of disease (such as hemorrhagic lesions, fungus, abnormal swellings, etc.), external parasites, and malformations. An additional form will be designed to record this information for each creature. Each survey group will need at least one person willing to monitor and record these findings. No animals will be injured or subjected to any sampling process that could be harmful. Prior to the spring survey activities Joy Ware and the committee will provide a brief summary of disease and malformation indicators to be considered. Including this information in our surveys will be valuable to the parks, refuges, and other locations in which we conduct our surveys and contribute to the conservation of herps.

VHS Webmaster: John White reports that recent improvements and additions include a redesign of the front page, Virginia frog identification guide, and additional conservation information. The webiste is receiving more hits this year than last year.

Catesbeiana: Paul Sattler reports that 190 copies were printed and 175 were mailed out for a total of \$335.

Submitted by:
Emily C Steele
VHS Secretary

**Virginia Herpetological Society
Treasurer's Report**

| | |
|----------------------------|------------|
| Balance on Hand April 2008 | \$5,588.86 |
|----------------------------|------------|

Receipts:

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| May Dues | \$122.78 |
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| July Dues | \$300.00 |
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| August Dues | \$30.00 |
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| <i>Donations</i> | <i>\$106.80</i> |
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| Total Receipts | \$ 559.58 |
|----------------|-----------|

Disbursements:

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|-------------------|----------|
| Catesbeiana 28(1) | \$335.52 |
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| Collecting Permit | \$40.00 |
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| State Corp. Application Fee | \$75.00 |
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| Total Disbursements | \$ 450.52 |
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| Balance on hand September 2008 | \$5,697.92 |
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Patricia Crane
VHS Treasurer

Field Notes

The field notes section of *Catesbeiana* provides a means for publishing natural history information on Virginia's amphibians and reptiles that does not lend itself to full-length articles. Observations on geographic distribution, ecology, reproduction, phenology, behavior, and other topics are welcomed. Field Notes will usually concern a single species. The format of the reports is: scientific name (followed by common name in parentheses), state abbreviation (VA), county and location, date(s) of observation, observer(s), data, and observations. The name(s) and address(es) of the author(s) should appear one line below the report. Consult the editor if your information does not readily fit this format. **All field notes must include a brief statement explaining the significance of the record** (e.g., new county record) **or observation** (e.g., unusual or rarely observed behavior, extremely early or late seasonal record, abnormal coloration, etc.). Submissions that fail to include this information are subject to rejection. Relevant literature should be cited in the body of the text (see Field Notes in this issue for proper format). All submissions will be reviewed by the editor (and one other person if deemed necessary) and revised as needed pending consultation with the author(s).

If the field note contains information on a **new county (or state) record**, **verification is required in the form of a voucher specimen** deposited in a permanent museum (e.g., Virginia Museum of Natural History) or a **photograph** (print, slide, or digital image) **or recording** (cassette tape or digital recording of anuran calls) deposited in the archives of the Virginia Herpetological Society. Photographs and recordings should be sent to the editor for verification and archiving purposes; the identity of voucher specimens must be confirmed by a museum curator or other qualified person. Include the specimen number if it has been catalogued. Prospective authors of distribution reports should consult Mitchell and Reay (1999. *Atlas of Amphibians and Reptiles in Virginia*), Mitchell (1994. *The Reptiles of Virginia*), and Tobey (1985. *Virginia's Amphibians and Reptiles: A Distributional Survey*) [**both atlases are available on-line on the VHS website**] as well as other recent literature to determine if they may have a new county record. New distribution records from large cities that formerly constituted counties (Chesapeake, Hampton, Newport News, Suffolk, and Virginia Beach) are acceptable, but records from smaller cities located within the boundaries of an adjoining county will only be published if the species has not been recorded from that county. Species identification for observational records (e.g., behavior) should be verified by a second person whenever possible.

PHOTOGRAPHS

High contrast photographs (prints, slides, or digital images) of amphibians and reptiles will be considered for publication if they are of good quality and are relevant to an accompanying article or field note. Digital images are preferred. Prints should be on glossy paper and no larger than 5 x 7 inches. Published photographs will be deposited in the Virginia Herpetological Society archives.